Draft Environmental Assessment

Canyon Ferry WMA Pond 4 Water Drawdown

June 2015



Draft Environmental Assessment CHECKLIST

PART I. PROPOSED ACTION DESCRIPTION

1. Type of proposed state action: Montana Fish, Wildlife & Parks (MFWP) is proposing to draw down Pond 4 on the Canyon Ferry Wildlife Management Area (CFWMA) starting around mid-July 2015 to affect a complete carp kill in the pond and to aerate the soils in the pond, all to promote an increase in invertebrates and submergent vegetation to improve waterfowl habitat in the pond and hence on the CFWMA.

2. Agency authority for the proposed action:

Canyon Ferry WMA is administered by the Bureau of Reclamation. Montana Fish, Wildlife & Park's manages the CFWMA through a management agreement (No. R12MU60088, 2012) with the Bureau of Reclamation.

3. Anticipated Schedule:

Draw down of the pond will start approximately mid-July 2015 and continue until the pond is either completely dry or water levels are at least low enough to achieve a winter kill of carp. If the draw down is successful, the pond will be kept dry for an extended time period (likely several months at a minimum) in order to promote a better invertebrate and submergent vegetation response to the drawdown. Depending upon the success of the drawdown and timing, it's hoped that MFWP can start filling the pond again sometime in the spring or summer of 2016.

4. Location affected by proposed action (county, range and township – included map):

Pond 4 on the CFWMA (see map), Broadwater County, 7N 1E Sections 12 and 13

5. Project size -- estimate the number of acres that would be directly affected that are currently:

	<u>Acres</u>		<u>Acres</u>
(a) Developed:		(d) Floodplain	0
Residential	0	_	
Industrial	0	(e) Productive:	
(existing shop area)		Irrigated cropland	0
(b) Open Space/	0	Dry cropland	0
Woodlands/Recreation		Forestry	0
(c) Wetlands/Riparian	~ 370 acres	Rangeland	0
Areas		Other	0

- 6. Permits, Funding & Overlapping Jurisdiction.
 - (a) **Permits:** No permits are needed to implement the proposed action

Funding: The proposed action will not require any additional funding. Work involved in carrying out the proposed action will be done as part of the regular Operation and Maintenance activities of the CFWMA which are already being paid for by MFWP or by the Bureau of Reclamation via its agreement with MFWP.

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

Agency Name Type of Responsibility

Bureau of Reclamation – administers property for the federal government; MFWP manages the CFWMA through a management agreement (No. R12MU60088, 2012) with the Bureau of Reclamation.

7. Narrative summary of the proposed action:

A slow water draw down will be done on Pond 4 of the Canyon Ferry Wildlife Management Area (CFWMA) starting around mid-July 2015 to affect a complete carp kill in the pond and to aerate the wet pond soils. Currently there is extremely high turbidity in Pond 4 caused by high densities of carp. Carp inhibit the growth of submergent vegetation as a result of their feeding actions which keeps sediments stirred up resulting in muddy or murky water with little light penetration for the growth of submergent aquatic vegetation. Turbidity and presence of large bodied fish are also negatively associated with wetland invertebrate density and diversity. Water levels at Pond 4 have traditionally been managed at relatively stable levels. Stable conditions lead to anaerobic soil conditions, and the lack of soil oxygen inhibits root growth of many wetland plants. Stable water conditions also lead to reduced wetland invertebrate numbers and diversity. Drawn-downs are an effective management tool to simulate a wet-dry hydrological regime. A dry cycle aerates the soil, allowing oxygen to be absorbed directly by plant roots, which stimulates growth. Draw-downs to improve wetland plant communities also can increase invertebrate productivity. The goal will be to completely dry up the pond or to at least get water levels low enough in winter that carp will be winter killed (any remaining water in the pond freezes in its entirety).

Once a total drawdown is achieved, if possible, the pond will then be kept dry for an extended time period to thoroughly aerate the wet soils and to stimulate the production of invertebrates and aquatic submergent vegetation. It may not be possible to get the pond completely dry due to factors outside of the control of MFWP, such as other potential sources of water that may dump into the pond (creeks or non-Department controlled irrigation ditches) or arise (springs) in the pond, seepage through the dike from Canyon Ferry Reservoir, or overland flow (flooding) that may occur during the winter as a result of ice jams on the Missouri River. MFWP can only regulate water coming into Pond 4 from the Missouri River via the west side canal. If a total drawdown cannot be achieved, there are still ecological benefits to a draw-down even if the pond is not completely dry, such as improved soil oxygen, vegetative response, and invertebrate densities in those areas that are devoid of water for an extended period.

The primary objective of the project is to improve submergent vegetation production for the benefit of waterfowl, primarily ducks and geese that utilize the pond. Draw-downs will also improve foraging opportunities for shorebirds during (invertebrates more accessible) and after (increases in invertebrate densities and diversity) the draw-down.

MFWP will also explore options and means of preventing carp from becoming reestablished in the pond. Unless a way is found to effectively keep carp from re-entering the pond through the west-side canal that supplies water to the pond, carp will eventually recolonize the pond and reach population levels damaging to aquatic vegetation in an estimated 4 to 5 years necessitating a need for another water draw down.

8. Description and analysis of <u>reasonable</u> alternatives:

Alternative A: No Action

MFWP doesn't do a drawdown of Pond 4 on the CFWMA, i.e. continues to manage for stable water conditions in Pond 4. The result of this action would be the maintenance of the current status quo regarding impacts of many of the aspects of the physical and human environment. The action would result in the continued degradation of the habitat quality of Pond 4 for waterfowl and shorebirds.

Alternative B: Proposed Action

MFWP proposes to draw down Pond 4 on the CFWMA to affect a complete carp kill in the pond and to aerate the soils in the pond, all to promote an increase in invertebrates and submergent vegetation to improve waterfowl habitat in the pond and hence on the CFWMA.

9. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

Montana Fish, Wildlife & Park's management agreement (Management Agreement No. R12MU60088, 2012) with the Bureau of Reclamation.

PART II. ENVIRONMENTAL REVIEW CHECKLIST

A. PHYSICAL ENVIRONMENT

Evaluation of the impacts of the <u>No Action</u> Alternative including secondary and cumulative impacts on the Physical Environment.

There would be no impacts (none) to land resources under the No Action Alternative – status quo. There would be no impacts (none) on air resources under the Action Alternative - status quo. There would be no changes to the status quo of impacts to water resource under the No Action Alternative. Surface water quality in the pond would continue to be poor due to the high levels of suspended sediment (turbidity) in the water due to the feeding actions of carp in the pond. All other impacts to water resources from the No Action Alternative would be none. There would be no changes to the status quo regarding impacts on vegetation under the No Action Alternative. The aquatic vegetation community would continue to be negatively impacted regarding species diversity and production from the high levels of turbidity in the water due to the feeding actions of carp in the pond. Growth of Eurasion watermilfoil in the pond would also continue to be inhibited due to the high level of turbidity in the water. All other impacts to the vegetation resource would be none. There would be no changes to the status quo regarding impacts on fish and wildlife resources under the No Action Alternative. Waterfowl habitat quality in the pond would continue to be degraded as a result of the impacts of water turbidity on the growth of submergent aquatic vegetation. This will continue to negatively impact waterfowl use (species composition and abundance) of the pond and likely will continue to negatively impact most nongame bird (water/shorebird) species as well. All other impacts to the fish and wildlife resource would be none.

Evaluation of the impacts of the $\underline{Proposed\ Action}$ including secondary and cumulative impacts on the Physical Environment.

1. LAND RESOURCES]	IMPACT		
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?			X			1b
c. Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				

1b. - As the pond is drawn down and when it becomes dry (if we are successful), there is the potential for some amount of wind erosion of the sediments that have been deposited in the pond. Even if the pond is successfully drawn down, the amount of erosion that may actually occur will depend upon such factors as wind speeds and direction, the frequency of precipitation (rain/snow) events, and amount of precipitation which will influence how moist the soil remains. The level of potential wind erosion is not expected to significantly alter the productivity or fertility of the soil. If successful, the proposed action should improve the productivity of the lake bottom for submergent and emergent vegetation species.

2. AIR			I	MPACT *		
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Emission of air pollutants or deterioration of ambient air quality? (Also see 13 (c).)			X			2a
b. Creation of objectionable odors?			X			2b.
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. For P-R/D-J projects, will the project result in any discharge, which will conflict with federal or state air quality regulations? (Also see 2a.)						NA

2a.- If the pond is successfully drawn down and some level of wind erosion does periodically occur, then for those time periods when wind erosion is occurring dust levels in the air would be increased resulting in a decrease in ambient air quality. Any such events would be expected to be fairly short in duration and very localized regarding area impacted (limited geographic area).

2b. - As the pond is being drawn, the exposed saturated soil could potentially give off objectionable odors. Also, any fish (carp, etc) that are killed as a result of the draw down and not consumed by predators may give off an objectionable odor as they start to decay. Any objectionable odors given off by exposed wet soils or decaying fish would be short in duration and impact a very limited geographic area.

NA – Not applicable

3. WATER	IMPACT							
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index		
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?			X					
b. Changes in drainage patterns or the rate and amount of surface runoff?		X						
c. Alteration of the course or magnitude of floodwater or other flows?		X						
d. Changes in the amount of surface water in any water body or creation of a new water body?			X					
e. Exposure of people or property to water related hazards such as flooding?		X						
f. Changes in the quality of groundwater?		X						
g. Changes in the quantity of groundwater?		X						
h. Increase in risk of contamination of surface or groundwater?		X						
i. Effects on any existing water right or reservation?		X						
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X						
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X						
l. For P-R/D-J, will the project affect a designated floodplain? (Also see 3c.)						NA		
m. For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a.)						NA		

3a & 3d – The proposal is to dry up pond #4 for an extended amount of time which will obviously change the amount of surface water in the pond itself. If successful, the proposal will reduce the amount of turbidity (suspended sediments) in the pond when it is refilled until that point in time that carp populations have recolonized/recovered enough to once again start negatively impacting the water quality in the pond unless a way can be found to effectively and economically keep carp from recolonizing the pond.

NA - Not applicable

4. VEGETATION	IMPACT							
Will the proposed action result in?	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index		
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X			4a		
b. Alteration of a plant community?			X			4b		
c. Adverse effects on any unique, rare, threatened, or endangered species?		X						
d. Reduction in acreage or productivity of any agricultural land?		X						
e. Establishment or spread of noxious weeds?		X						
f. For P-R/D-J, will the project affect wetlands, or prime and unique farmland?						NA		
g. Other:			X		X	4g		

4a & 4b. – The objective of the proposed project is to improve the production and abundance of submergent aquatic vegetation in the pond post drawn down by eliminating carp from the pond.

4g. – Pond 4 likely has some Eurasian watermilfoil (*Myriophyllum spicatum*) in it, as it is found in the west-side canal especially near the mouth of the pond. Drying pond 4 up will allow the Eurasian watermilfoil to be exposed to drying and freezing action which will help control the invasive aquatic species in the short-term. In the long-term, improving the water quality in the pond would improve conditions for the growth of Eurasian watermilfoil (EWM) as turbid water inhibits the growth of EWM because of the lack of light penetration. The improved potential for growth of EWM in pond 4 is being mitigated by the fact that MFWP is actively controlling EWM in the west-side canal/mouth of the pond through annual applications of herbicide.

NA – Not applicable

5. FISH/WILDLIFE	IMPACT							
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index		
a. Deterioration of critical fish or wildlife habitat?		X						
b. Changes in the diversity or abundance of game animals or bird species?			X		X	5b		
c. Changes in the diversity or abundance of nongame species?			X		X	5c		
d. Introduction of new species into an area?		X						
e. Creation of a barrier to the migration or movement of animals?		X						
f. Adverse effects on any unique, rare, threatened, or endangered species?		X						
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?		X						
h. For P-R/D-J, will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f.)						NA		
i. For P-R/D-J, will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d.)						NA		

5b & 5c – Drawing down and eventually drying up pond 4 will negatively impact geese, duck, other waterfowl, waterbird, etc. use of the pond in the short duration (time period proposed action is occurring). The draw down will immediately improve availability of soil invertebrates for foraging shorebirds. The proposed action will also improve the quality of the waterfowl and nongame habitat post draw down and hence likely improve the diversity and/or abundance of food resources and ultimately game and nongame bird species. The draw down will take place after the nesting period for waterfowl and nongame bird species and will continue through the fall and winter, possibly into the following spring. Depending upon how long the draw down event takes and whether or not the pond can be completely dried, water may be back in the pond in time for the 2016 nesting season. The draw down will likely make carp and other rough fish species present in the pond more available for birds such as bald eagles, osprey, white pelicans, and cormorants in the short-term. After the draw down is complete and the fish kill is achieved, then the food habitats of the aforementioned species will be negatively impacted regarding food availability in pond 4 until those various fish species that are currently utilized for food in pond 4 recolonize the pond via the west-side canal. However, food for bald eagles, osprey, white pelicans, and cormorants isn't limiting in the immediate area given the other three ponds present on the WMA and the presence of Canyon Ferry Reservoir and the Missouri River.

On the fisheries side, the purpose of the draw down is to kill the carp, an introduced species, in the pond. Other fish species, potentially including yellow perch, white sucker, long-nose sucker, redside dace, flathead minnow, long-nosed dace, stonecat, sculpin, and an occasional trout, that may be found in the pond will also be killed as well. No listed fish species or fish species of concern are expected to be found in the pond. Killing whatever fish that may be present in pond 4 will not negatively impact populations of those species. Any fish species currently found in pond 4 would also be expected to likely recolonize the

pond over time once water is returned to the pond via the west-side canal.

NA – Not applicable

B. HUMAN ENVIRONMENT

Evaluation of the impacts of the <u>No Action</u> Alternative including secondary and cumulative impacts on the Human Environment.

There are no (none) impacts (status quo) to the human environment from the No Action Alternative regarding noise/electrical effects, land use, risk/health hazards, community impacts, public service/taxes/ utilities, and cultural/historic resources. There are no changes from the status quo regarding the impacts of the No Action Alternative on the aesthetics/recreation aspects of the human environment. The quantity and quality of both waterfowl recreational hunting opportunity and waterfowl/waterbird viewing opportunities in the pond would continue to be negatively impacted due to the continued negative impacts on the pond's waterfowl habitat from the presence of carp. There are no other impacts (none) to the aesthetic/ recreational aspects of the human environment from the No Action Alternative – status quo.

Evaluation of the impacts of the <u>Proposed Action</u> including secondary and cumulative impacts on the Human Environment.

6. NOISE/ELECTRICAL EFFECTS		IMPACT					
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index	
a. Increases in existing noise levels?		X					
b. Exposure of people to serve or nuisance noise levels?		X					
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X					
d. Interference with radio or television reception and operation?		X					

7. LAND USE	IMPACT						
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index	
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X					
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X					
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X					
d. Adverse effects on or relocation of residences?		X					

8. RISK/HEALTH HAZARDS	IMPACT						
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index	
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X					
b. Affect an existing emergency response or emergency evacuation plan, or create a need for a new plan?		X					
c. Creation of any human health hazard or potential hazard?			X			8c	
d. For P-R/D-J, will any chemical toxicants be used? (Also see 8a)						NA	

8c. - As noted previously, drawing down and drying up the pond may expose it to wind erosion. Any wind erosion event would increase the amount of dust in the air and thereby decrease air quality for a limited amount of time in a limited geographic area. This could create a potential short duration health hazard for individuals in the immediate area that have breathing related issues.

NA – not applicable

9. COMMUNITY IMPACT	IMPACT						
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index	
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X					
b. Alteration of the social structure of a community?		X					
c. Alteration of the level or distribution of employment or community or personal income?		X					
d. Changes in industrial or commercial activity?		X					
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X					

10. PUBLIC SERVICES/TAXES/UTILITIES	IMPACT						
Will the proposed action result in:	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index	
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:		X					
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X					
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X					
d. Will the proposed action result in increased use of any energy source?		X					
e. Define projected revenue sources		X					
f. Define projected maintenance costs.		X					

11. AESTHETICS/RECREATION	IMPACT							
Will the proposed action result in:	Unknown None Mino	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index			
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?			X			11a		
b. Alteration of the aesthetic character of a community or neighborhood?		X						
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings?			X			11c		
d. For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c.)						NA		

11a – The Canyon Ferry Wildlife Management area where pond 4 is located does get a lot of public and recreational use. Some individuals may find the site of the pond being dry and/or the site of exposed dead fish to be aesthetically offensive. Given that the duration of the proposed project is limited, impacts on aesthetic quality would be limited.

11c – The Canyon Ferry Wildlife Management area where pond 4 is located does get a lot of public and recreational use including a lot of waterfowl hunting use in the fall. Obviously decreased water levels in the pond and/or a dry pond may negatively impact waterfowl hunting opportunities on pond 4 during Fall 2015. However, waterfowl hunting opportunity is not limited in the immediate geographic area, so there are other places close by for hunters to go. Also, given that the duration of the proposed project is limited, impacts on recreational/hunting use of the area around pond 4 will be limited. In the long-term, improving the waterfowl habitat of the pond will improve both recreational and hunting opportunities associated with the pond.

NA – Not applicable

12. CULTURAL/HISTORICAL RESOURCES Will the proposed action result in:	IMPACT							
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index		
a. Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X						
b. Physical change that would affect unique cultural values?		X						
c. Effects on existing religious or sacred uses of a site or area?		X						
d. For P-R/D-J, will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a.)		X				NA		

NA – Not applicable

SIGNIFICANCE CRITERIA

13. SUMMARY EVALUATION OF SIGNIFICANCE Will the proposed action, considered as a whole:	IMPACT							
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.)		X						
b. Involve potential risks or adverse effects, which are uncertain but extremely hazardous if they were to occur?		X						
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X						
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X						
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X						
f. For P-R/D-J, is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e.)		X				NA		
g. For P-R/D-J, list any federal or state permits required.		X				NA		

NA – Not applicable

There are no expected cumulative impacts on any resources from the proposed project.

PART III. NARRATIVE EVALUATION AND COMMENT

This analysis did not reveal any significant impacts to the human or physical environment. If successful, the proposed action will affect a complete carp kill in the pond and aerate the soils in the pond which should promote an increase in invertebrates and aquatic submergent vegetation which will improve waterfowl and shorebird habitat in the pond and hence on the CFWMA. The proposed actions will work toward MFWP meeting its objectives of improving habitat conditions on the CFWMA for waterfowl.

PART IV. PUBLIC PARTICIPATION

1. Public involvement:

The public will be notified in the following manners to comment on this current EA, the proposed action and alternatives:

- Public notices in each of these papers: Bozeman Chronicle, Helena Independent Record, Broadwater County Reporter
- Public notice on the Fish, Wildlife & Parks web page: http://fwp.mt.gov.

Copies of this environmental assessment will be distributed to interested parties to ensure their knowledge of the proposed project.

This level of public notice and participation is appropriate for a project of this scope having limited impacts, many of which can be mitigated.

2. Duration of comment period:

The public comment period will extend for (30) thirty days following the publication of the second legal notice in area newspapers. Written comments will be accepted until 5:00 p.m., July 6, 2015 and can be mailed to the address below:

Attention: Adam Grove Montana Fish, Wildlife & Parks P.O. Box 998 Townsend, MT 59644

PART V. EA PREPARATION

1. Based on the significance criteria evaluated in this EA, is an EIS required? (YES/NO)? If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.

No, an EIS is not required. Based on an evaluation of impacts to the physical and human environment under MEPA, this environmental review revealed no significant impacts from the proposed action; therefore, an environmental assessment is deemed to be the appropriate level of analysis.

2. Person(s) responsible for preparing the EA:

Adam Grove, MFWP Wildlife Biologist - Townsend

3. List of agencies or offices consulted during preparation of the EA:

Montana Fish, Wildlife and Parks
Wildlife Division
Fisheries Division
Responsive Management Unit

Bureau of Reclamation

Appenix A: Maps and aerial photo of pond 4 (CFWMA).



